

CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2002			
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-5					R-1 ITEM NOMENCLATURE Submarine System Equipment Development/0604503N					
COST (\$ in Millions)		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Total PE Cost		69.685	64.547	98.516	69.075	86.148	64.684	62.218	CONT.	CONT.
Submarine Support Equipment/F0775		0.903	0.650	1.523	1.537	1.533	1.538	1.541	CONT.	CONT.
Submarine Sonar Improvement/F0219		58.517	56.948	64.601	40.778	42.833	32.621	36.487	CONT.	CONT.
Submarine Integrated Antenna Systems/X0742		5.719	2.860	17.757	21.342	33.667	25.612	21.368	CONT.	CONT.
Submarine Tactical Communications Systems/X1411		4.546	4.089	14.635	5.418	8.115	4.913	2.822	CONT.	CONT.
Quantity of RDT&E Articles		0	0	0	0	0	0	0		
<p>A. (U) Mission Description and Budget Item Justification: The Submarine Support Equipment Program develops and improves submarine Electronic Warfare Support (ES) techniques and components, equipment, and systems that will increase submarine operational effectiveness in the increasingly dense and sophisticated electromagnetic environment caused by the proliferation of complex radar, communications, and navigation equipment of potential adversaries. Improvements are necessary for submarine ES to be effective in conducting the following mission areas: Joint Littoral Warfare, Joint Surveillance, Space and Electronic Warfare and Intelligence Collection, Maritime Protection, and Joint Strike.</p> <p>(U) The Submarine Sonar Improvement Program delivers block updates to Sonar Systems installed on SSN 688, 688I, 21 and TRIDENT Class Submarines to maintain clear acoustic, tactical and operational superiority over submarine and surface combatants in all scenarios through detection, classification, localization and contact following. Current developments are focused on supporting Littoral Warfare, Regional Sea Denial, Battle Group Support, Diesel Submarine Detection, Surveillance, and Peacetime Engagement.</p> <p>(U) The Submarine Integrated Antenna Systems project develops the antennas needed to communicate in networks such as Ultra High Frequency Satellite Communications, Extremely Low Frequency (ELF), Extremely High Frequency (EHF), Super High Frequency and Global Positioning System. Hardware developments include: (a) mast-mounted systems; (b) buoyant cable systems; (c) expendable buoy systems and (d) submarine antenna distribution systems.</p>										

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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-5		R-1 ITEM NOMENCLATURE Submarine System Equipment Development/0604503N																					
<p>(U) The Submarine Tactical Communications Systems project provides attack submarines with an exterior communications system which: (a) minimizes the time required at communications depth; (b) enhances operability, reducing errors and manpower requirements; and (c) provides flexibility for low impact growth and change throughout the life of the submarine. Design efforts will provide increased antenna signal distribution and interconnection subsystems to accommodate ELF, EHF, and Mini-Demand Assigned Multiple Access and a message storage and processing subsystem.</p>																							
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 15%; text-align: center;">FY 2001</th> <th style="width: 15%; text-align: center;">FY 2002</th> <th style="width: 20%; text-align: center;">FY 2003</th> </tr> </thead> <tbody> <tr> <td>(U) FY 2002 President's Budget:</td> <td style="text-align: center;">72.132</td> <td style="text-align: center;">43.706</td> <td></td> </tr> <tr> <td>(U) Appropriated Value:</td> <td style="text-align: center;">72.801</td> <td style="text-align: center;">65.206</td> <td></td> </tr> <tr> <td>(U) Adjustment to FY2001/2002 Appropriated Value/FY2002 President's Budget Submit:</td> <td style="text-align: center;">-3.116</td> <td style="text-align: center;">-0.659</td> <td style="text-align: center;">98.516</td> </tr> <tr> <td>(U) FY 2003 President's Budget:</td> <td style="text-align: center;">69.685</td> <td style="text-align: center;">64.547</td> <td style="text-align: center;">98.516</td> </tr> </tbody> </table>					FY 2001	FY 2002	FY 2003	(U) FY 2002 President's Budget:	72.132	43.706		(U) Appropriated Value:	72.801	65.206		(U) Adjustment to FY2001/2002 Appropriated Value/FY2002 President's Budget Submit:	-3.116	-0.659	98.516	(U) FY 2003 President's Budget:	69.685	64.547	98.516
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<p>(U) Change Summary Explanation:</p> <p style="margin-left: 40px;">Funding: See individual program element summaries for specific data.</p> <p style="margin-left: 40px;">Schedule: See individual program element summaries</p> <p style="margin-left: 40px;">Technical: See individual program element summaries</p>																							

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2002			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5		PROGRAM ELEMENT NAME AND NUMBER Submarine Spt Equipment Dev/0604503N			PROJECT NAME AND NUMBER Submarine Support Equipment Program/F0775					
COST (\$ in Millions)		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Project Cost		0.903	0.650	1.523	1.537	1.533	1.538	1.541	CONT.	CONT.
RDT&E Articles Qty		0	0	0	0	0	0	0		

A. (U) Mission Description and Budget Item Justification: This program develops and improves techniques and components, equipment, and systems that will increase submarine operational effectiveness in the increasingly dense and sophisticated electromagnetic environment caused by the proliferation of complex radar, communications, and navigation equipment of potential adversaries. Improvements are necessary for Submarine Electronic Warfare Support Measures (ES) systems to be effective in conducting the following mission areas: Joint Littoral Warfare; Joint Surveillance, Space and Electronic Warfare and Intelligence Collection; Maritime Protection; and Joint Strike. Specific efforts include: (1) AN/BLQ-10 ES System software problem evaluation and resolution, (2) de-installation of the AN/BLQ-10 ES System EDM from the Developmental Test (DT)/Operational Test (OT) test platform and and restoration to pre-test ES configuration, (3) Engineering and Manufacturing Development of advanced technology transitioned from the Advanced Submarine Support Equipment Program (ASSEP), project F0770 and (4) Development of AN/BLQ-10 Tech Insertion of SIGINT threat emitter/carry-on equipment open architecture. The AN/BLQ-10 ES System problem evaluation will provide correction of system problems identified during Land Based Integration Testing (LBIT), DT/Operational Evaluation (OPEVAL) and Follow-on Test and Evaluation (FOT&E).

(U) Program Accomplishment and Plans:

1. (U) FY 2001 Accomplishments:

- (U) (\$.213) Performed AN/BLQ-10(V) ES System problem evaluation and resolution as a result of fleet operator feedback.
- (U) (\$.690) De-Installed AN/BLQ-10 ES System EDM from USS Annapolis test platform and restored to pre-test ES configuration (AN/WLR-8, AN/BRD-7 etc.).

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EXHIBIT R-2a, RDT&E Project Justification		DATE:	February 2002																				
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER																					
RDT&E, N/BA-5	Submarine Spt Equipment Dev/0604503N	Submarine Support Equipment Program/F0775																					
<p>2. (U) FY 2002 Plan:</p> <ul style="list-style-type: none"> - (U) (\$.650) Develop software and hardware improvements associated with OPEVAL and ASSEP project F0770 transition. <p>3. (U) FY 2003 Plan:</p> <ul style="list-style-type: none"> - (U) (\$.273) Develop software and hardware improvements associated with ASSEP project F0770 transition. - (U) (\$ 1.250) Initiate development of AN/BLQ-10 Tech Insertion of SIGINT threat emitter/carry-on equipment open architecture. <p>(U) Program Change Summary:</p> <table> <thead> <tr> <th></th> <th>FY 2001</th> <th>FY 2002</th> <th>FY 2003</th> </tr> </thead> <tbody> <tr> <td>(U) FY 2002 President's Budget:</td> <td>0.933</td> <td>0.656</td> <td></td> </tr> <tr> <td>(U) Appropriated Value:</td> <td>0.942</td> <td>0.656</td> <td></td> </tr> <tr> <td>(U) Adjustment to FY2001/2002 Appropriated Value/FY2002 President's Budget:</td> <td>-0.039</td> <td>-0.006</td> <td>1.523</td> </tr> <tr> <td>(U) FY 2003 Pres Budget Submit:</td> <td>0.903</td> <td>0.650</td> <td>1.523</td> </tr> </tbody> </table>					FY 2001	FY 2002	FY 2003	(U) FY 2002 President's Budget:	0.933	0.656		(U) Appropriated Value:	0.942	0.656		(U) Adjustment to FY2001/2002 Appropriated Value/FY2002 President's Budget:	-0.039	-0.006	1.523	(U) FY 2003 Pres Budget Submit:	0.903	0.650	1.523
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EXHIBIT R-2a, RDT&E Project Justification								DATE:			
								February 2002			
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NAME AND NUMBER			PROJECT NAME AND NUMBER					
RDT&E, N/BA-5			Submarine Spt Equipment Dev/0604503N			Submarine Support Equipment Program/F0775					
U) Change Summary Explanation:											
Funding:											
FY2001: Decrease of (-\$0.30K) is for minor adjustments, .7% Pro-Rata (-\$0.07K), Government-Wide Recissions (-\$0.02K).											
FY2002: Decrease of (\$0.06K) is due to Management Reform Initiatives.											
FY2003: Net increase of (\$0.871K) is due to N77 issue (+\$1,250K) to fund technology insertion for AN/BLQ-10 to address emerging SIGINT requirements and minor adjustments (-\$379K).											
Schedule: Not applicable											
OPN Line 256000	AN/BLQ-10 688I/21 Backfit		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Complete	Cost
SSEP ML015			10.003	10.548	28.020	42.741	33.838	39.408	40.160	0.000	0.000
ML017	AN/BLQ-10 Fld Chg Kits		0.000	0.000	30.244	59.741	34.845	24.590	18.089	0.000	0.000
ML018	IEM Fld Change Kits		0.000	0.000	0.000	0.000	11.682	13.888	16.176	0.000	41.746
OPN Line 256005	SSN 688I/21 AN/BLQ-10 Installation										
PE 0204281N			0.765	1.925	2.897	1.605	13.463	18.637	15.769	0.000	0.000
SSEP ML5IN											
O&M,N											
PE 0702827N/Subhead 8B2B			1.815	1.982	1.712	1.869	1.690	1.727	1.787	CONT.	0.000
SSEP											
SCN LI 201300											
PE 0204287N			20.667	21.827	22.720	22.984	23.286	23.797	48.944	CONT.	0.000
Partial (AN/BLQ-10 ES Only)											

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NAME AND NUMBER Submarine Spt Equipment Dev/0604503N	PROJECT NAME AND NUMBER Submarine Support Equipment Program/F0775
<p>Related RDT&E: (U) PE 0603562N/Submarine Tactical Warfare System (U) PE 064558N/New SSN Combat Systems Development/Project F1950 (U) PE 064558N/New SSN Combat Systems Development/Project F2430</p> <p>C. (U) Acquisition Strategy: LRIP approved November 99 and Full rate production approved October 2000. Current efforts in this project consist of Product Improvements (Tech Insertion) to the AN/BLQ-10(V) ES system.</p> <p>D. (U) Schedule Profile: AN/BLQ-10 P3I Program Schedule attached.</p>		

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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2002

APPROPRIATION/BUDGET ACTIVITY

RDT&E, N/BA-5

PROGRAM ELEMENT NAME AND NUMBER

Submarine Sys Equip Dev/0604503N

PROJECT NAME AND NUMBER

Submarine Support Equipment Program/F0775

AN/BLQ-10 P3I Schedule

ID	Task Name	Start	Finish	Duration	2001					2002					2003				2004				2005				2006				2007	
					Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
1	Radar Cross Section Reduction	10/01/02	09/30/04	523 days																												
2	Low Probability of Intercept Receiver	10/06/03	10/04/06	783 days																												
3	ES Vulnerability Server	10/02/01	10/02/03	523 days																												
4	Passive Surveillance Radar	10/02/01	10/02/03	523 days																												
5	Software Improvements	10/02/01	10/02/03	523 days																												
6	Technology Insertion Studies	10/02/01	10/02/03	523 days																												

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Exhibit R-2a, RDT&E Project Justification
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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2002				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			Submarine Sys Equip Dev/0604503N			Submarine Support Equipment Program/F0775						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development												
IEM/HPI Interface	SS/CPIF	SENSYS Tech Newington,V	2.700							0.000	2.700	2.700
AN/BLQ-10 ES/IEM BDE EDMS	C/FFP	Lockheed Syracuse, NY	7.778							0.000	7.778	7.778
AN/BLQ-10 ES Product Improvement	SS/FFP	Lockheed Syracuse, NY	1.091	0.172	01/01	0.4030	12/01	0.417	12/02	CONT.	CONT.	CONT.
Ancillary Hardware Development												
Systems Engineering	WR	NUWC Newport, RI	4.534	0.690	10/00	0.195	10/01	0.195		CONT.	5.614	N/A
Miscellaneous	VARIOUS	VARIOUS	12.782	0.011	Var	0.052	Var	0.911	N/A	CONT.	CONT.	N/A
Licenses											0.000	N/A
Tooling											0.000	N/A
GFE (AN/UYQ-70 Displays)	C/FFP	Lockheed Eagan.MN	0.700							0.000	0.700	0.700
IEM ADSU EMD (EDMs)	C/CPIF/CPAF	E-Systems Goleta, CA	38.386							0.000	38.386	38.386
Award Fees	C/CPAF	E-Systems Goleta, CA	0.200							0.000	0.200	0.200
Subtotal Product Development			68.171	0.873		0.650		1.523		CONT.	CONT.	N/A
Remarks:												
Development Support Equipment											0.000	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Engineering Technical Services	C/CPIF	GRCI McLean, VA	2.700							0.000	2.700	2.700
Studies Analysis & Evaluations	MIPR	MITRE McLean, VA	1.000							0.000	1.000	1.000
GFE											.	
Subtotal Support			3.700	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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Exhibit R-3, Project Cost Analysis
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Exhibit R-3 Cost Analysis (page 2)								DATE: February 2002				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			Submarine Sys Equip Dev/0604503N			Submarine Support Equipment Program/F0775						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Tooling											0.000	
GFE											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Management Support Services	C/CPAF	EG&G, Arlington, VA	0.292	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.292	0.292
Travel	TO's	Various	0.049	0.030	10/00	0.000	N/A	0.000	N/A	0.000	0.079	N/A
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			0.341	0.030		0.000		0.000		CONT.	CONT.	CONT.
Remarks:												
Total Cost			72.212	0.903		0.650		1.523		CONT.	CONT.	CONT.
Remarks:												

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Exhibit R-3, Project Cost Analysis
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RDT&E, N/BA-5	Submarine Sys Equip Dev/0604503N				Submarine Sonar Improvement/F0219					
COST (\$ in Millions)		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Project Cost		58.517	56.948	64.601	40.778	42.833	32.621	36.487	CONT.	CONT.
RDT&E Articles Qty		0	0	0	0	0	0	0		

A. (U) Mission Description and Budget Item Justification: This program delivers block updates to Sonar Systems installed on SSN 688, 688I, 21 and TRIDENT Class Submarines to maintain clear acoustical, tactical and operational superiority over submarine and surface combatants in all scenarios through detection, classification, localization and contact following. Current developments, detailed below, are focused on supporting Littoral Warfare, Regional Sea Denial, Battle Group Support, Diesel Submarine Detection, Surveillance, and Peacetime Engagement. A-RCI is a multi-phased, evolutionary development effort geared toward addressing Acoustic Superiority issues through the rapid introduction of interim development products applicable to SSN 688, 688I Flight, SSN21, and SSBN 726 Class Submarines. A-RCI Phases I and II introduce towed array processing improvements; A-RCI Phase III introduces spherical array processing improvements. The AN/BSY-1 High Frequency Upgrade is a stand-alone program which will be introduced as A-RCI Phase IV for SSN 688I and Seawolf Class only and carries on to FY03. As part of CNO N872's plan to maintain acoustic superiority for In-Service Submarines a joint cooperative effort with NAVSEA (SEA 93, ASTO) to deliver annual Advanced Processing Builds (APBs). The capabilities in the APBs will be integrated as part of A-RCI certified systems. This effort, known as the N872 Business Plan funds the APB integration efforts with the Multi-Purpose Processor as well as the AN/BQQ-10 Sonar system beginning in FY02. This budget submit also reflects development of the Total Ship Monitoring System as well as Acoustic Intelligence (ACINT 21) capabilities to be introduced into the Fleet. Precision Bottom Mapping transition, integration and testing began in FY01. Towed systems development efforts will focus on: (a) tow cable improvements for shallow water towing in littoral environments; (b) hydrophone and telemetry cost and risk reduction initiatives; (c) mechanical endurance improvements; (d) TB-29 (A) towed array Engineering Developmental Model (EDM) development; and (e) Affordable Towed Array Technology. The TB-29(A) array will provide additional war fighting capability over the TB-23 at a reduced unit cost compared to the TB-29, through the use of Commercial Off The Shelf (COTS) telemetry, lower cost hydrophones, and fewer non-acoustic sensors. Affordable Towed Array Technology reduces Towed Array Total Ownership cost and provides improvements in Towed Array Reliability. AN/BSY-2 efforts are focused on ARCI-(V)5 development which implements ARCI Phases II-IV in the Seawolf Class submarines. AN/BSY-2 development also delivers a CCS MK2 Variant to the Seawolf Class.

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RDT&E, N/BA-5	Submarine Sys Equip Dev/0604503N	Submarine Sonar Improvement/F0219
<p>1. (U) FY 2001 Accomplishments:</p> <ul style="list-style-type: none"> - (U) (\$11.508) Continued Advance Processing Build Sea Testing, Integration and Certification. - (U) (\$5.433) Complete development, Opeval and Techeval for A-RCI Phase III and IV. - (U) (\$25.000) Continued research, development, training, and deployment of the Multipurpose Processor - (U) (\$3.993) Continued development of TB-29 (A) Towed Array. - (U) (\$1.269) Began development of Affordable Towed Array Technology Initiatives - (U) (\$.900) Continued development for DTC Improvements. - (U) (\$6.914) Continued ARCI-(V)5 development and integration. - (U) (\$3.500) Continued Precision Bottom Mapping transition, integration and testing. <p>2. (U) FY 2002 Plan:</p> <ul style="list-style-type: none"> - (U) (\$22.153) Continue Advance Processing Build Sea Testing, Integration and Certification. - (U) (\$21.310) Continue research, development, training, and deployment of the Multipurpose Processor - (U) (\$ 1.220) Complete development, Techeval and Opeval of TB-29 A Towed Array. - (U) (\$ 4.116) Continue development of Affordable Towed Array Technology Initiatives. - (U) (\$.900) Continue development for DTC Improvements. - (U) (\$4.749) Continue ARCI-(V)5 development, integration and test. - (U) (\$2.500) Continue Precision Bottom Mapping transition, integration and testing. <p>3. (U) FY 2003 Plan:</p> <ul style="list-style-type: none"> - (U) (\$22.496) Continue Advance Processing Build Sea Testing, Integration and Certification. - (U) (\$ 5.203) Continue development of Affordable Towed Array Technology Initiatives. - (U) (\$.900) Continue development for DTC Improvements. - (U) (\$10.802) Continue ARCI-(V)5 development, integration and test. - (U) (\$2.500) Complete Precision Bottom Mapping transition, integration and testing. - (U) (\$5.500) Begin TSMS Development - (U) (\$9.200) Begin Acoustic Intercept - (U) (\$8.000) Development for SSGN's. 		

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APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NAME AND NUMBER			PROJECT NAME AND NUMBER																						
RDT&E, N/BA-5		Submarine Sys Equip Dev/0604503N			Submarine Sonar Improvement/F0219																						
<p>(U) Program Change Summary:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 10%; text-align: right;">FY 2001</th> <th style="width: 10%; text-align: right;">FY 2002</th> <th style="width: 10%; text-align: right;">FY 2003</th> </tr> </thead> <tbody> <tr> <td>FY 2002 President's Budget:</td> <td style="text-align: right;">60.652</td> <td style="text-align: right;">35.966</td> <td></td> </tr> <tr> <td>FY2002 Appropriated Value:</td> <td style="text-align: right;">61.214</td> <td style="text-align: right;">57.466</td> <td></td> </tr> <tr> <td>Adjustment to FY2001/2002 Appropriated Value/FY2002 President's Budget</td> <td style="text-align: right;">-2.697</td> <td style="text-align: right;">-0.518</td> <td style="text-align: right;">64.601</td> </tr> <tr> <td>FY 2003 President's Budget Submit:</td> <td style="text-align: right;">58.517</td> <td style="text-align: right;">56.948</td> <td style="text-align: right;">64.601</td> </tr> </tbody> </table> <p>(U) Change Summary Explanation:</p> <p>Funding:</p> <p>FY01 decrease of (-\$2.697M) was for SBIR reduction (-\$1.516M), .7% Pro-Rata (-\$0.429K) and (-\$0.752K).</p> <p>FY02: These changes reflect a Congressional Plus Up of \$21.5M for MPP development, Management Reform Initiatives (-\$0.508K), and misc decreases of \$0.10K).</p> <p>FY03: This budget includes realignment with RDT&E budget 0604503N (Project F0219). Funding has been realigned to RDT&E by reducing the FY03 A-RCI and OA-9070B Production quantities and by realigning AN/BSY-2 funding from SSN Acoustics, H2SA, SA101(9.2), SA102(1.8) and SA501(4.6) to Program Element 0604503N, F0219. Additional increase of \$8.0M is for improvements of Combat Systems on SSGN Conversions.</p> <p>Schedule: AN/BSY-2 TECHEVAL/OPEVAL has been completed. The A-RCI TECHEVAL/OPEVAL schedule has been modified. These test events have been extended to the end of FY02. The TB-29A TECHEVAL/OPEVAL schedule has been modified. An LRIP III decision has been added in the third quarter of FY 02 and Milestone III has been rescheduled for the fourth quarter of FY 02.</p> <p>Technical: A-RCI increases technical capabilities over programs through the use of commercial off-the-shelf components, open system architecture, and leveraging advanced development efforts. AN/BSY-2 TECHEVAL/OPEVAL has been completed.</p>									FY 2001	FY 2002	FY 2003	FY 2002 President's Budget:	60.652	35.966		FY2002 Appropriated Value:	61.214	57.466		Adjustment to FY2001/2002 Appropriated Value/FY2002 President's Budget	-2.697	-0.518	64.601	FY 2003 President's Budget Submit:	58.517	56.948	64.601
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	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Cost																		
OPN BLI 214700/05	112.031	118.258	251.909	328.469	216.647	242.030	290.233	CONT.	CONT.																		

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NAME AND NUMBER Submarine Sys Equip Dev/0604503N	PROJECT NAME AND NUMBER Submarine Sonar Improvement/F0219
<p>C. (U) Acquisition Strategy: The TB-29(A) was developed and manufactured under the US Navy Towed Systems Omnibus contract, awarded in FY99 to Lockheed Martin Integrated Systems, Bethesda, MD using full and open competition. This flexible contract vehicle will be used by submarine, surface ship, and surveillance towed system program offices. The contract is planned to take advantage of economies of scale in development and manufacturing and to encourage the use of commonality among all Navy towed systems. A Low-Rate Initial Production (LRIP) approval was granted for TB-29 (A) and contract was awarded in FY00. A second Low-Rate Initial Production (LRIP) approval was granted for TB-29 (A) and contract was awarded in the second quarter FY01. An Operational Evaluation (OPEVAL) on a SSN688 or SSN688I platform is planned in FY02 to support a Milestone III Release to Fleet (RTF) decision for TB-29(A).</p> <p>A-RCI utilizes an open architecture and Commercial Off-the-Shelf products in support of new and upgraded sonar systems. A sole source cost plus award fee contract was awarded to Lockheed Martin Federal Systems and Digital System Resources. Program Review with Milestone Decision Authority was conducted in December 1999 granting approval for the FY00 production option.</p> <p>A Sole Source Cost Plus Award Fee with multiple option years ending in FY 2001 was awarded to Lockheed Martin, Syracuse in 1996. A one year contract extension is currently being negotiated followed by a new sole source contract with Lockheed Martin Corporation.</p> <p>D. (U) Schedule Profile: See attached schedules.</p>		

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Exhibit R-2a, RDT&E Project Justification
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EXHIBIT R-2a, RDT&E Project Justification

DATE:

February 2002

APPROPRIATION/BUDGET ACTIVITY

RDT&E, N/BA-5

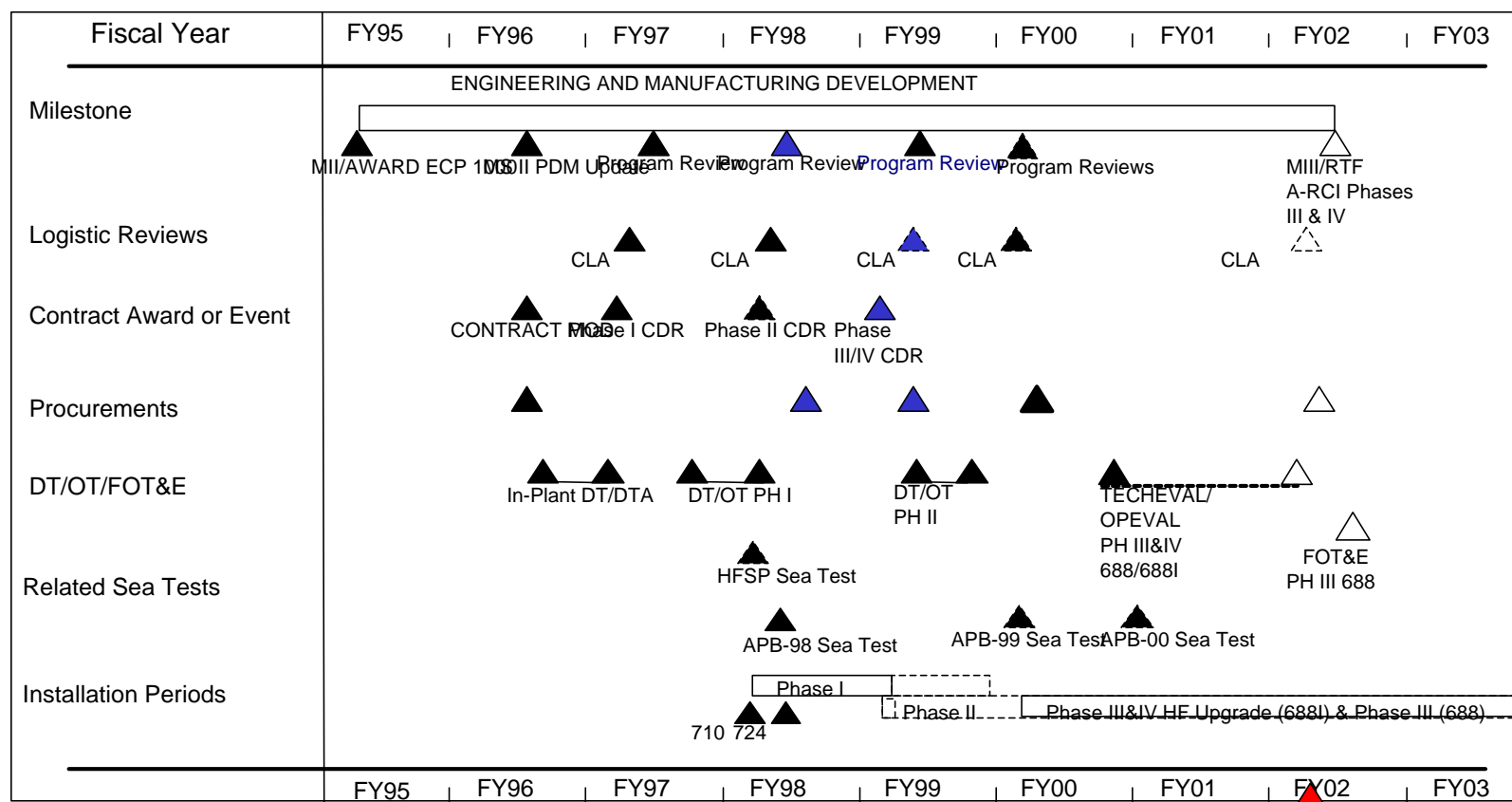
PROGRAM ELEMENT NAME AND NUMBER

Submarine Sys Equip Dev/0604503N

PROJECT NAME AND NUMBER

Submarine Sonar Improvement/F0219

A-RCI MASTER PROGRAM SCHEDULE



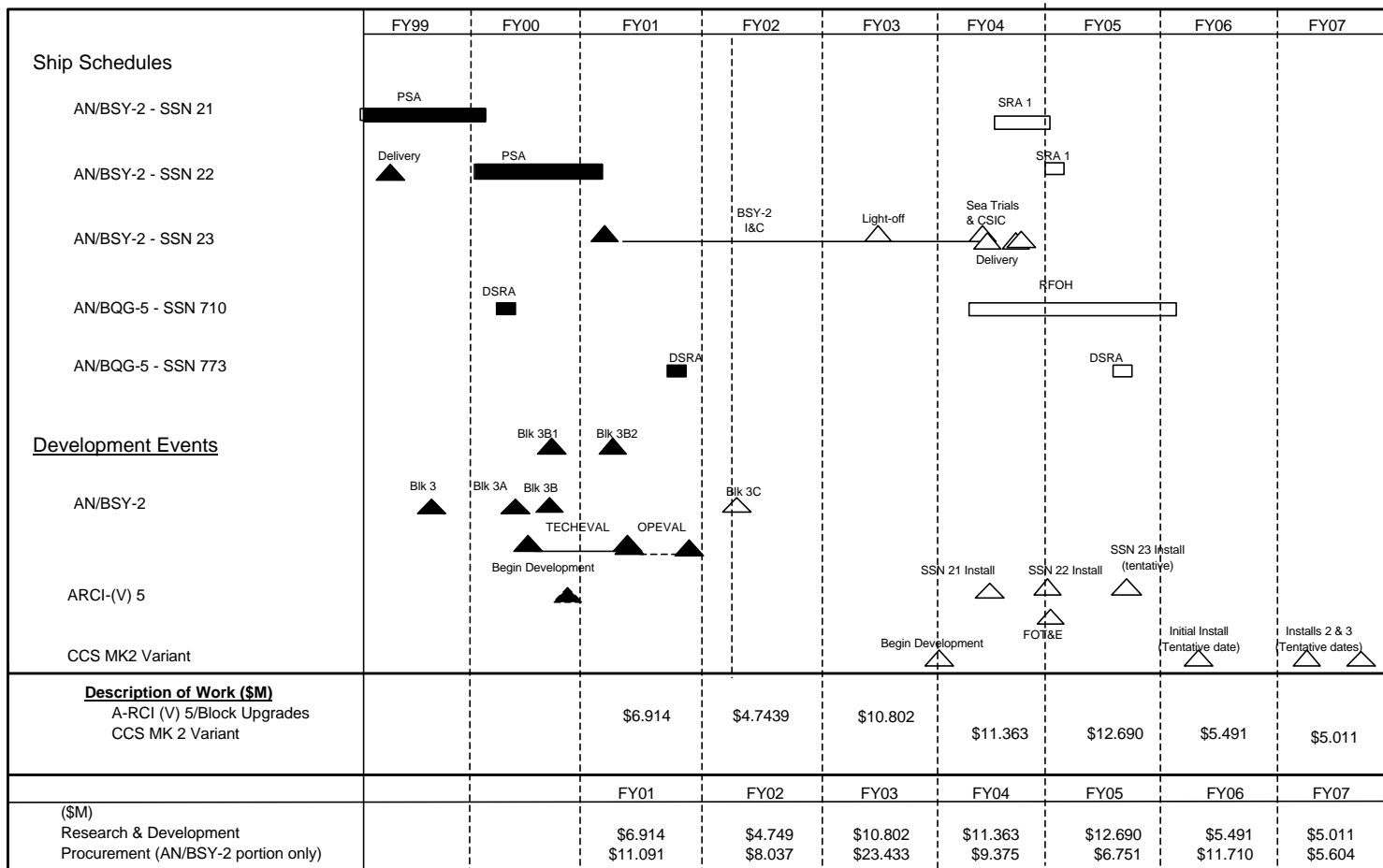
R-1 SHOPPING LIST - Item No. 116

NOW Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 14 of 31)

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EXHIBIT R-2a, RDT&E Project Justification			DATE:	February 2002
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NAME AND NUMBER	PROJECT NAME AND NUMBER		
RDT&E, N/BA-5	Submarine Sys Equip Dev/0604503N	Submarine Sonar Improvement/F0219		

E. (U) Schedule Profile:



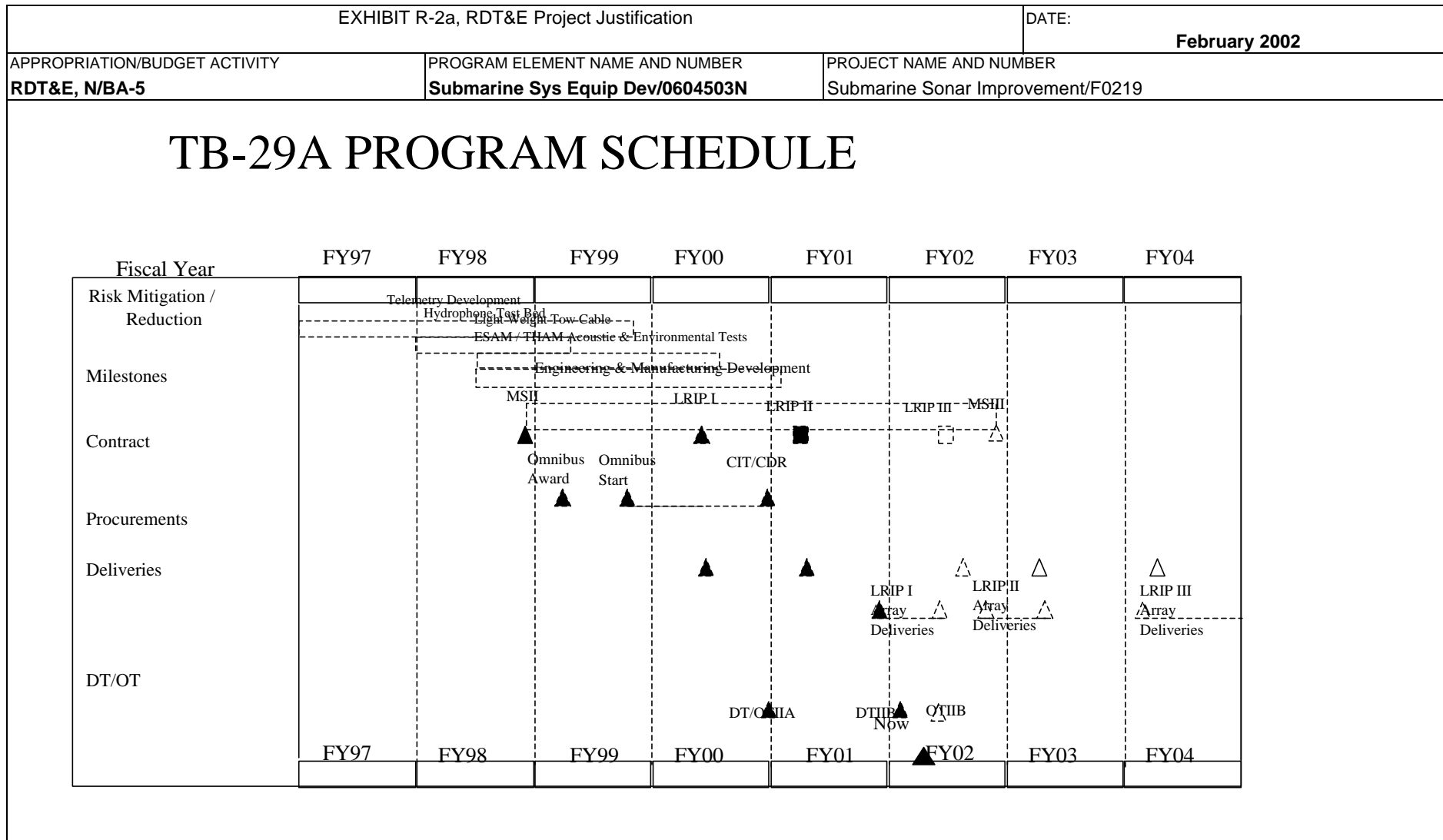
R-1 SHOPPING LIST - Item No. 116

Exhibit R-2a, RDT&E Project Justification

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Exhibit R-2a, RDT&E Project Justification
(Exhibit R-2a, page 16 of 31)

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Exhibit R-3 Cost Analysis (page 1)							DATE: February 2002					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			SSN-688 and Trident Modernization/0604503N			Submarine Sonar Improvement/F0219						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/Various	Lockheed Martin (OMNIBUS)	10.959	2.928	N/A	0.250	N/A	0.000	N/A	CONT.	CONT.	33.485
Primary Hardware Development	SS/Various	Chesapeake Science	4.891	0.000	N/A	2.589	N/A	4.123	N/A	CONT.	CONT.	12.620
Primary Hardware Development	SS/CPAF	Lockheed Manassas, VA	78.660	9.578	N/A	8.803	N/A	17.000	N/A	CONT.	111.286	137.476
Ancillary Hardware Development											0.000	
Systems Engineering	WR	NUWC Newport, RI	66.251	7.827	10/00	6.771	10/01	7.896	10/01	CONT.	CONT.	N/A
Systems Engineering	SS/CPAF	LMC, Syracuse	3.875	1.566	N/A	0.000	N/A	0.000	N/A	CONT.	CONT.	N/A
Systems Engineering	Various	Various	9.627	2.408	N/A	24.106	N/A	7.490	N/A			
Miscellaneous	Various	TBD						11.927		CONT.	CONT.	
Miscellaneous	Various	Various	7.123	2.299	N/A	2.549	N/A	3.849	N/A	CONT.	CONT.	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees	SS/CPAF	Lockheed, Syracuse NY	0.385	0.110	N/A	0.000	N/A	0.000	N/A	CONT.	CONT.	N/A
Subtotal Product Development			181.771	26.716		45.068		52.285		CONT.	CONT.	
Remarks: Maximum award fee budgeted for LMC, Syracuse contract averages 10% of the value placed on contract. Maximum award fee budgeted for Lookheed Martin Federal Systems contract averages 12% of the value placed on contract 10/1/96 - 3/31/97 received a rating of outstanding and 100% award . 10/1/98 - 3/31/99 received a rating of outstanding and 100% award 4/1/97 - 9/30/97 received a rating of outstanding and 100% award. 4/1/99 - 9/30/99 received a rating of Outstanding and 100% award. 10/1/97 - 3/31/98 received a rating of above average and 80% award. 10/1/99 - 3/31/00 received a rating of Outstanding and 100% award. 4/1/98 - 9/30/98 received a rating of outstanding and 100% award. 4/1/01 - 9/30/01 received a rating of outstanding and 100% award.												
Development Support Equipment											0.000	
Primary Software Development	SS/CPAFF	Digital Systems Resources,VA	45.300	29.800	N/A	10.000	N/A	10.000	N/A	CONT.	95.100	102.892
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Subtotal Support			45.300	29.800		10.000		10.000		CONT.	95.100	
Remarks:												

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Exhibit R-3, Project Cost Analysis
 (Exhibit R-3, page 17 of 31)

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CLASSIFICATION:

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Exhibit R-3 Cost Analysis (page 2)								DATE: February 2002				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			SSN-688 and Trident Modernization/0604503			Submarine Sonar Improvement/F0219						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Developmental/Operational T&E	Various	Various	4.427	1.224	N/A	0.987	N/A	1.500	N/A	CONT.	CONT.	N/A
Tooling											0.000	
GFE											0.000	
Subtotal T&E			4.427	1.224		0.987		1.500		CONT.	CONT.	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Management Support Services	Various	Various	2.059	0.702	N/A	0.718	N/A	0.641	N/A	CONT.	CONT.	N/A
Travel	PD	NAVSEA	0.435	0.075	N/A	0.175	N/A	0.175	N/A	CONT.	CONT.	N/A
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			2.494	0.777		0.893		0.816		CONT.	CONT.	
Remarks:												
Total Cost			233.992	58.517		56.948		64.601		CONT.	CONT.	
Remarks:												

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 18 of 31)

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NAME AND NUMBER SSN 688 & Trident Modernization/0604503N				PROJECT NAME AND NUMBER Submarine Integrated Antenna System/X0742				
COST (\$ in Millions)	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Project Cost	5.719	2.860	17.757	21.342	33.667	25.612	21.368	CONT.	CONT.
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. (U) Mission Description and Budget Item Justification: The Submarine Integrated Antenna System (SIAS) project provides for the development and testing of submarine antennas designed to track and meet emerging submarine communications requirements: (a) Improve frequency coverage and data rate capabilities of submarine antennas and their interface to the External Communications System (ECS), (b) Improve submarine antenna performance and Data Rate while the submarine is operating at speed and depth, (c) Provide antenna compatibility with new waveforms and receiver equipment, and (d) Improve the stealth capability of existing and future antennas and (e) Improve antenna design to reduce Total Ownership Cost. This project funds research and development for submarine antennas including (1) P3I efforts to existing antennas including OE-538/BRC Multi-Function Antenna improved UHF (iUHF) gain and RFDACS efforts and the OE-562 Submarine High Data Rate (SubHDR) development of K-band capability and system design changes for integration on OHIO class submarines, (2) Development of new antenna systems including Advanced High Data Rate Antenna (AdvHDR) and (3) Communication at Speed and Depth design efforts. These efforts will provide SSN, SSBN and SSGN platforms with an improved communications capability while operating at speed and depth thus enhancing operational flexibility and maintaining stealth in Littoral mission applications.

(U) Program Accomplishments and Plans:

1. (U) FY 2001 Accomplishments:

- (U) (\$0.337) OE-538/RFDACS - Continued development for design changes required for submarine automated RF path management for OHIO Integrated Radio Room (IRR).
- (U) (\$0.382) Antenna Transition Engineering - Continued development of UHF SATCOM 3dB antenna gain. Continued development of OE-538 iUHF capability. Continued to perform program definition and risk reduction for the next generation submarine antenna systems. Performed technology and SATCOM assessments and system configuration option evaluation for the AdvHDR mast.
- (U) (\$5.000) Congressional Plus-up funding was provided to improve UHF systems and provide higher data rate communications with the objective to enable global connectivity across all submarine missions in accordance with network centric doctrine.

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Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, page 19 of 31)

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NAME AND NUMBER SSN 688 & Trident Modernization/0604503N	PROJECT NAME AND NUMBER Submarine Integrated Antenna System/X0742
<p>2. (U) FY 2002 Plan:</p> <ul style="list-style-type: none"> - (U) (\$0.362) OE-538/RFDACS - Complete development and testing of OE-538/RFDACS for OHIO class integration. - (U) (\$0.793) Advanced HDR/SubHDR P3I - Perform trade off analysis to investigate application of new capabilities such as Ku/Ka-band coverage upgrade to SubHDR P3I or follow-on AdvHDR system. Initiate program definition and performance specifications to develop system requirements to meet broadband frequency coverage for communications multi-functionality and higher data rates over existing antennas at periscope depth while maintaining SSN, SSGN, and SSBN stealth objectives. - (U) (\$1.705) Antenna Transition Engineering - Provide continued program definition, system specifications, and risk reduction to the next generation antenna systems for planned FY03 program starts, AdvHDR, and Advanced Bouyant Cable (AdvBCA). Continue tracking Satellite Communications (SATCOM) (WGF/Advanced Wideband System (AWS)/Advanced Narrowband Plan (ANS)/Advanced Extremely High Frequency (AdvEHF) and Line-of-Sight (LOS) (UAV)/Unmanned Underwater Vehicle (UUV)/Unmanned Ground Sensor (UGS) connectivity operational capability requirements for translation into system performance specifications for acquisition. Continue technology performance and maturity assessment for new system baselines and rapid insertion potential to upgrade current antenna systems for support of emerging SATCOM circuits to meet evolving fleet requirements. <p>3. (U) FY2003 Plan:</p> <ul style="list-style-type: none"> - (U) (\$2.723) Antenna Transition Engineering - Provide continued program definition, system specifications, and risk reduction to the next generation antenna systems for planned FY03 EMD program starts of AdvHDR and AdvBCA. Continue technology performance and maturity assessment for rapid insertion potential to upgrade current antenna systems for support of emerging SATCOM circuits to meet evolving fleet requirements. - (U) (\$8.279) SubHDR for OHIO - Develop the HDR antenna and associated equipment design changes required for integration of the SubHDR antenna into OHIO class submarines. - (U) (\$6.606) K-band Upgrade for SubHDR - Develops the design changes to the SubHDR antenna that will enable the antenna to access the K-band and interface with WGS SATCOM system or the Common Data Link in support of the UAV/UUV operations. - (U) (\$0.149) Communications at Speed and Depth- Performs assessment of enabling technologies (i.e., buoyant cable ,towed, and expendable buoy systems, with RF, acoustics and laser communication payloads) that will provide the submarine the ability to communicate at speed and depth. 		

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Exhibit R-2a, RDT&E Project Justification
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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002																				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NAME AND NUMBER SSN 688 & Trident Modernization/0604503N	PROJECT NAME AND NUMBER Submarine Integrated Antenna System/X0742																				
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	FY 2001	FY2002	FY 2003																			
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R-1 SHOPPING LIST - Item No. 116

Exhibit R-2a, RDT&E Project Justification

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2002																					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5			PROGRAM ELEMENT NAME AND NUMBER SSN 688 & Trident Modernization/0604503N			PROJECT NAME AND NUMBER Submarine Integrated Antenna System/X0742																						
<p>Schedule:</p> <p>1) OE-538/BRC: RFDAC ACU Variant will begin installations with the OE-538 multi-function mast in FY03.</p> <p>Technical: N/A</p> <p>C. (U) Other Program Funding Summary:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>FY 2001</th> <th>FY 2002</th> <th>FY 2003</th> <th>FY 2004</th> <th>FY 2005</th> <th>FY 2006</th> <th>FY 2007</th> <th>To Complete</th> <th>Total Cost</th> </tr> </thead> <tbody> <tr> <td></td> <td>77.137</td> <td>88.487</td> <td>132.874</td> <td>112.804</td> <td>187.351</td> <td>166.106</td> <td>154.141</td> <td>CONT.</td> <td>CONT.</td> </tr> </tbody> </table> <p>OPN Line 3130 Hardware and 31305 Installation (Full)</p> <p>RELATED RDT&E:</p> <p>PE 0602232N (Space and Electronic Warfare (SEW) Technology)</p> <p>PE 0303109N (Satellite Communications) – Provides for the EHF transmitter and receiver that utilizes the antenna developed under this program.</p>										FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total Cost		77.137	88.487	132.874	112.804	187.351	166.106	154.141	CONT.	CONT.
	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total Cost																			
	77.137	88.487	132.874	112.804	187.351	166.106	154.141	CONT.	CONT.																			

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Exhibit R-2a, RDT&E Project Justification
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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NAME AND NUMBER SSN 688 & Trident Modernization/0604503N	PROJECT NAME AND NUMBER Submarine Integrated Antenna System/X0742
D. (U) Acquisition Strategy:		
	<u>FY 2001</u>	<u>FY 2002</u> <u>FY 2003</u>
Program Milestones	3Q HDR MSIII	
Engineering Milestones		
T&E Milestones		4Q OE-538 FOTE
Contract Milestones	3Q HDR (FRP)	
E. (U) Schedule Profile: See paragraph C above.		

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2002				
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N/BA-5			PROGRAM ELEMENT SSN 688 & Trident Modernization/0604503N			PROJECT NAME AND NUMBER Submarine Integrated Antenna System/X0742						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Hardware Development (UHF)	WX	NUWC Newport, RI	2.082	5.227	Various	0.365	Various	0.370	Various	CONT.	CONT.	CONT.
Hardware Development (Ka/Ku)	CPFF	Raytheon Marlboro, MA						4.424	Jan - 03	CONT.	CONT.	CONT.
Software Development (Ka/Ku)	CPFF	Raytheon Marlboro, MA						0.342	Jan - 03	CONT.	CONT.	
Hardware Development (Ohio - HDR)	CPFF, WX	NSWC						3.311	Jan - 03	CONT.	CONT.	
H/W Proc/Design (Ohio - HDR)	CPFF, WX	NSWC						4.698	Jan - 03	CONT.	CONT.	
Systems Engineering	WX	NUWC Newport, RI	2.243	0.391	Various	2.328	Various	3.737	Various	CONT.	CONT.	CONT.
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			4.325	5.618		2.693		16.882		CONT.	CONT.	CONT.
Remarks:												
Development Support Equipment											0.000	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support	Various	Various	0.255	0.000	Various	0.000	Various	0.000	Various	CONT.	CONT.	CONT.
Configuration Management											0.000	
Technical Data	Various	Various									0.000	
GFE											0.000	
Subtotal Support			0.255	0.000		0.000		0.000		CONT.	CONT.	CONT.
Remarks:												

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Exhibit R-3, Project Cost Analysis
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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			SSN 688 & Trident Modernization/0604503N			Submarine Integrated Antenna System/X0742						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Developmental/Operational T&E	Various	Various	1.223	0.000	Various	0.000	Various	0.000	Various	CONT.	CONT.	CONT.
Tooling											0.000	
GFE											0.000	
Subtotal T&E			1.223	0.000		0.000		0.000		CONT.	CONT.	CONT.
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	Various	Various	0.674	0.101	Various	0.167	Various	0.875	Various	CONT.	CONT.	CONT.
Management Support Services											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			0.674	0.101		0.167		0.875		CONT.	CONT.	CONT.
Remarks:												
Total Cost			6.477	5.719		2.860		17.757				
Remarks:												

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Exhibit R-3, Project Cost Analysis
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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NAME AND NUMBER SSN 688 & Trident Modernization/0604503N				PROJECT NAME AND NUMBER Submarine Tactical Communication System/X1411				
COST (\$ in Millions)	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Cost
Project Cost- FMB Control	4.546	4.089	14.635	5.418	8.115	4.913	2.822	CONT.	CONT.
RDT&E Articles Qty	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

A. (U) Mission Description and Budget Item Justification: The Submarine Tactical Communications System project provides submarines with communications systems designed to: (a) enhance data throughput through automation and integrated network management; (b) copy tactical data networks, (c) provide submarines IP connectivity; (d) be interoperable with other U.S. and allied military networks; and (e) improve reliability, maintainability, and availability. This is accomplished by providing the submarine with a properly integrated mix of Navy standard and commercial off-the-shelf communication equipment covering a wide range of frequencies and modes. This project includes the Submarine Communications Support System (SCSS) which provides a system engineering approach for the design and evaluation of wideband and narrowband modernization plans. This project includes the follow-on program to SCSS, the Common Submarine Radio Room (CSRR). CSRR will leverage the development of VIRGINIA Class Exterior Communications System (ECS) which includes Open Systems Architecture (OSA) and install the VIRGINIA ECS on all classes of submarines. In support of the CSRR, funding is provided to expedite the Navy standard Multi-functional Crypto System (MCS) to meet CSRR need dates. The project provides for the development of a single Land-Based Integration and Test Facility that will consolidate existing Land -Based Testing Facilities into one facility that will support all classes of submarines. This project funds the development of a replacement of the Multi-Link Transmit Simulator (MLTS) to support future testing and training requirements. The project includes system engineering efforts associated with demonstration of new technology which will allow the submarine to be a participant in battle group and joint operations. The new technology will increase the submarine's communications, command, and control capability and interoperability with the rest of the Navy and exploits its stealth capabilities for battlefield dominance. This project also provides funds to integrate Singleton and Satellite Link 11 into the SCSS and the transition to a Tactical Data Link.

(U) Program Accomplishments and Plans:

1. (U) FY 2001 Accomplishments:

- (U) (\$4.277) SCSS – Complete design, integration and TECHEVAL for SCSS Continue design of CSRR and started development of Multi-functional Crypto System (MCS).
- (U) (\$0.269) Submarine Tactical Data Link (STD L) – Continued integration and development testing for STD L .

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002																								
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NAME AND NUMBER SSN 688 & Trident Modernization/0604503N	PROJECT NAME AND NUMBER Submarine Tactical Communication System/X1411																								
<p>2. (U) FY 2002 Plan:</p> <ul style="list-style-type: none"> - (U) (\$1.599) CSRR – Complete design on baseline architecture of CSRR. - (U) (\$1.150) CSRR - Begin OHIO unique hardware interface development including platform hull, mechanical and electrical interfaces. Also begin unique OHIO software development. - (U) (\$0.500) MCS - Continue development of Multi-functional Crypto System (MCS). - (U) (\$0.840) Complete OPEVAL of SCSS on Los Angeles class submarine <p>3. (U) FY 2003 Plan:</p> <ul style="list-style-type: none"> - (U) (\$2.185) CSRR - Continue design and integration efforts of CSRR for OHIO Class submarines. - (U) (\$2.500) CSRR -Begin Integration and Certification of Integration Test Facility. - (U) (\$2.300) CSRR -Complete development of unique OHIO software. - (U) (\$1.350) Begin development of MLTS replacement. - (U) (\$0.800) Complete testing and certification of MCS. - (U) (\$4.500) Begin the CSRR conversion of the TRIDENT Land-Based Evaluation Facility into a CSRR configuration which will support all classes of submarines. - (U) (\$1.000) Begin system engineering to implement BCA/OPCON architecture. <p>B. (U) Program Change Summary:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">FY 2001</th> <th style="text-align: center;">FY2002</th> <th style="text-align: center;">FY 2003</th> </tr> </thead> <tbody> <tr> <td>FY 2002 President's Budget:</td> <td style="text-align: center;">4.651</td> <td style="text-align: center;">4.199</td> <td></td> </tr> <tr> <td>(U) FY 2002 Appropriated Value:</td> <td style="text-align: center;">4.694</td> <td></td> <td></td> </tr> <tr> <td>Adjustment to FY2001/2002 Appropriated Value/ FY 2002</td> <td style="text-align: center;">-0.148</td> <td style="text-align: center;">-0.110</td> <td style="text-align: center;">14.635</td> </tr> <tr> <td>(U) FY 2003 President's Budget Submit:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) FY 2003 President's Budget:</td> <td style="text-align: center;">4.546</td> <td style="text-align: center;">4.089</td> <td style="text-align: center;">14.635</td> </tr> </tbody> </table> <p>(U) Change Summary Explanation:</p> <p>Funding: N/A</p> <ol style="list-style-type: none"> 1) FY 2001 decrease of (-\$0.048K) for SBIR, (-\$0.33K .7% Pro-Rat), (-\$0.10K Government-Wide Rescission), and(- \$.057K Navy miscellaneous reduction. 2) FY 2002 decrease of (-\$0.036K) for Management Reform Initiative and(-\$0.074K) for FFRDC. 3) FY 2003 decrease of (-\$0.112K) for SYSCOM Contractor Support. 				FY 2001	FY2002	FY 2003	FY 2002 President's Budget:	4.651	4.199		(U) FY 2002 Appropriated Value:	4.694			Adjustment to FY2001/2002 Appropriated Value/ FY 2002	-0.148	-0.110	14.635	(U) FY 2003 President's Budget Submit:				(U) FY 2003 President's Budget:	4.546	4.089	14.635
	FY 2001	FY2002	FY 2003																							
FY 2002 President's Budget:	4.651	4.199																								
(U) FY 2002 Appropriated Value:	4.694																									
Adjustment to FY2001/2002 Appropriated Value/ FY 2002	-0.148	-0.110	14.635																							
(U) FY 2003 President's Budget Submit:																										
(U) FY 2003 President's Budget:	4.546	4.089	14.635																							

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Exhibit R-2a, RDT&E Project Justification
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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2002																						
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5			PROGRAM ELEMENT NAME AND NUMBER SSN 688 & Trident Modernization/0604503N			PROJECT NAME AND NUMBER Submarine Tactical Communication System/X1411																							
<p>Schedule: N/A</p> <p>Technical: N/A</p> <p>C. (U) Other Program Funding Summary:</p> <table> <thead> <tr> <th></th> <th>FY 2001</th> <th>FY 2002</th> <th>FY 2003</th> <th>FY 2004</th> <th>FY 2005</th> <th>FY 2006</th> <th>FY 2007</th> <th>To Complete</th> <th>Total Cost</th> </tr> </thead> <tbody> <tr> <td></td> <td>77.137</td> <td>88.487</td> <td>132.874</td> <td>112.804</td> <td>187.351</td> <td>166.106</td> <td>154.141</td> <td>CONT.</td> <td>CONT.</td> </tr> </tbody> </table> <p>OPN Line 3130 Hardware and 31305 Installation (Full)</p> <p>RELATED RDT&E:</p> <p>PE 0204163N (Fleet Communications)</p> <p>PE 0602232N (Space & Electronic Warfare (SEW) Technology)</p>											FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total Cost		77.137	88.487	132.874	112.804	187.351	166.106	154.141	CONT.	CONT.
	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Complete	Total Cost																				
	77.137	88.487	132.874	112.804	187.351	166.106	154.141	CONT.	CONT.																				

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Exhibit R-2a, RDT&E Project Justification
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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-5	PROGRAM ELEMENT NAME AND NUMBER SSN 688 & Trident Modernization/0604503N	PROJECT NAME AND NUMBER Submarine Tactical Communication System/X1411
<p>C. (U) Acquisition Strategy: SCSS provides the system engineering and integration for the N77/N6 narrowband and wideband modernization plans on SSN 688 Class submarines. CSRR transforms SSN 688, SSBN 726, and SSN 21 Class radio room from suites of class-specific, closed system equipment to the VIRGINIA Class ECS which incorporates OSA communications equipment. The SCSS and OHIO SCSS programs are combined to provide the funding required to implement CSRR on all classes of submarines.</p> <p>CSRR will: Leverage off VIRGINIA Class ECS design. Use VIRGINIA Class ECS control and management software. Apply a systems approach to design and implementation of JMCOMS. Maximize use of COTS products and emerging technologies.</p>		
	<u>FY 2001</u>	<u>FY2002</u>
		<u>FY2003</u>
Program Milestones		
Engineering Milestones	(STD L) 1Q LBSRR DT-I	
T&E Milestones	(SCSS) 2Q TECHEVAL DT-IIA (SCSS) 4Q OPEVAL (LBSRR) OT-IIA	(SCSS) 2/3Q OPEVAL (SSN OT-IIA) (CSRR) 3/4 Q DT
Contract Milestones	(STD L) 1Q NCTSI Certification (STD L) 2/3Q OPEVAL (at sea) (STD L) 4Q Operational Test	

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Exhibit R-2a, RDT&E Project Justification

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2002				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			SSN 688 & Trident Modernization/0604503N			Submarine Tactical Communication System/X1411						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Hardware Development*	CPFF	SSC-SD San Diego, CA	1.900	0.500		0.000	TBD	0.000	TBD		2.400	
Hardware Development**	CPFF	SSCs/NUWC Newport, RI				0.211	TBD	2.000	TBD	Cont.	Cont.	Cont.
MCS Development	Various	Motorola, misc labs		0.212	Various	0.515	TBD	0.706				
H/W development/Facilities	Various	NUWC Newport, RI						4.375				
Software Development	CPFF	SSC-SD San Diego, CA	1.100	0.315		0.348	TBD	2.200	TBD	2.000	5.963	
Software Development	WX	NUWC Newport, RI	4.000	1.235	Various	0.263	TBD	0.000	TBD	Cont.	Cont.	Cont.
Ancillary Hardware Development						0.386	TBD				0.386	
Systems Engineering	Various	Misc Labs	3.848	0.850	Various	0.666	Various	1.000	Various	Cont.	Cont.	Cont.
Site Platform Integration/Certification								2.397			2.397	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			10.848	3.112		2.389		12.678		Cont.	Cont.	Cont.
Remarks: * SCSS Development for SSN688 Class submarines ** CSRR Development for OHIO class submarines												
Development Support Equipment *								1.050	TBD		1.050	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support			0.000	0.000		0.000		0.190		0.000	0.190	
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Subtotal Support			0.000	0.000		0.000		1.240		0.000	1.240	
Remarks: * Supports the development of the Multi-Link Training Simulator replacement												

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Exhibit R-3, Project Cost Analysis
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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
RDT&E, N/BA-5			SSN 688 & Trident Modernization/0604503N			Submarine Tactical Communication System/X1411						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Developmental/Operational T&E	Various	Various	2.775	0.855	Various	0.900	Various	0.000	Various	Cont.	Cont.	Cont.
Tooling											0.000	
GFE											0.000	
Subtotal T&E			2.775	0.855		0.900		0.000		Cont.	Cont.	Cont.
Remarks: Delays in platform availability resulted in shifting SCSS OPEVAL 2 Qtrs into FY02												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	Various	Various	2.311	0.579	Various	0.800	Various	0.717	Various	Cont.	Cont.	Cont.
Management Support Services											0.000	
Travel											0.000	
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			2.311	0.579		0.800		0.717		Cont.	Cont.	Cont.
Remarks:												
Total Cost			15.934	4.546		4.089		14.635				
Remarks:												

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Exhibit R-3, Project Cost Analysis
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